

Silicon Wafer Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global silicon wafer market size reached US\$ 11.6 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 15.2 Billion by 2028, exhibiting a growth rate (CAGR) of 4.3% during 2023-2028.

Silicon (Si) wafer refers to a semiconductor material primarily installed with electronic integrated circuits (ICs) and microelectronic circuits. It is widely used in smartphones, tablets, smart wearables, microchips, solar cells, military weapons, gaming devices, rectifiers, etc. In these devices, silicon wafers offer a wide range of current and voltage handling capacity along with high durability, reliability, and heat resistance. As a result, silicon wafers are extensively adopted across diverse industries, such as consumer electronics, telecommunication, energy generation, defense, automotive, etc.

The expanding consumer electronics sector along with the increasing prevalence of device miniaturization trends is augmenting the market for silicon wafers. Several electronics manufacturers are getting inclined towards silicon wafers for producing compact integrated circuits in smartphones, laptops, smartwatches, tablets, etc. Apart from this, the rising environmental concerns towards high carbon emissions from fuel-based power plants are driving the demand for renewable energy sources. The growing number of solar power plants is catalyzing the use of silicon wafers in photovoltaic cells. In line with this, the rising awareness towards high band efficiency, stable operations, and non-toxicity of silicon wafers is propelling the adoption of silicon solar panels. Additionally, significant growth in the automotive industry has led to the emergence of connected and hybrid vehicles. The increasing utilization of silicon wafers in Advanced Driver-Assistance Systems (ADAS), touch-free human-machine interfaces, adaptive cruise control, and automatic braking systems in automobiles, is further driving the market growth. In the coming years, the growing penetration of Industry 4.0

technologies, including IoT, AI, machine learning, etc., will continue to drive the global market for silicon wafers.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global silicon wafer market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on wafer size, type, application and end use.

Breakup by Wafer Size:

- 0 - 100 mm
- 100 - 200 mm
- 200 - 300 mm
- More than 300 mm

Breakup by Type:

- N-type
- P-type

Breakup by Application:

- Solar Cells
- Integrated Circuits
- Photoelectric Cells
- Others

Breakup by End Use:

- Consumer Electronics
- Automotive
- Industrial
- Telecommunications
- Others

Breakup by Region:

- North America

United States
Canada
Asia Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined with some of the key players being GlobalWafers Singapore Pte. Ltd, Okmetic Oy, Shanghai Simgui Technology Co. Ltd., Shin-Etsu Chemical Co., Ltd, Silicon Materials Inc, Siltronic AG, SK Siltron Co., Ltd., Sumco Corporation, Tokuyama Corporation., Virginia Semiconductor, Inc. and Wafer Works Corporation.

Key Questions Answered in This Report

1. What was the size of the global silicon wafer market in 2022?
2. What is the expected growth rate of the global silicon wafer market during 2023-2028?
3. What are the key factors driving the global silicon wafer market?
4. What has been the impact of COVID-19 on the global silicon wafer market?
5. What is the breakup of the global silicon wafer market based on the wafer size?

6. What is the breakup of the global silicon wafer market based on the type?
7. What is the breakup of the global silicon wafer market based on the application?
8. What is the breakup of the global silicon wafer market based on the end use?
9. What are the key regions in the global silicon wafer market?
10. Who are the key players/companies in the global silicon wafer market?

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